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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,908

06/07/2006

Ikuyoshi Kohchi

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513

7590

12/18/2008

WENDEROTH, LIND & PONACK, L.L.P.

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SUITE 800

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EXAMINER

LAUX, DAVID J

ART UNIT

PAPER NUMBER

4193

MAIL DATE

DELIVERY MODE

12/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,908	<b>Applicant(s)</b> KOHCHI ET AL.	
	<b>Examiner</b> David Laux	<b>Art Unit</b> 4193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/07/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the pressure regulation means or restriction means for adjusting the overheated steam or spent steam must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 18-19, 21-22, 24-26, 32-33, 35-36, 38-40, 46-47, 49-50 and 52-54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification makes reference to a pressure regulation mechanism or restriction means that would reduce the flow rate of the steam from 5 m/s to 20 m/s, but does demonstrate how that would be done (0018, 0022, 0032, 0036). One having ordinary skill in the art at the time of invention would not have been enabled to practice the invention.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 18-19, 21-22, 24-46, 32-33, 35-36, 38-40, 46-47, 49-50 and 52-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See above explanation as to why "pressure regulation mechanism or restriction means" is indefinite.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP

2002-364816 to Osamu et al in view of JP 2002-194362 to Susumu et al. '816

discloses a carbonization apparatus which comprises: a drying carbonization furnace

(1) for drying waste material (2) by heat transmission caused by bringing said waste

material (2) into direct contact with overheated steam introduced thereinto to carbonize

said waste material and discharging spent steam which is no longer required; a

deodorizing furnace (11) for deodorizing impurities contained in the spent steam

discharged from said drying carbonization furnace (1) by heating the steam and

discharging the steam reaching a high temperature; and a waste heat boiler (15) for

generating steam from water heated with the high-temperature steam discharged from

said deodorizing furnace (11).

3. '816 fails to disclose a high-temperature steam generator for generating, from the

steam introduced therein, the overheated steam to be fed to said drying carbonization

furnace. '362 teaches a carbonization apparatus with a high-temperature steam

generator (2) for generating, from the steam introduced therein, the overheated steam

to be fed to a drying carbonization furnace (3). It would have been obvious to one

skilled in the art at the time of invention to combine the apparatus disclosed by '816 with

the teaching of '362 because such a combination would have produced the added

benefit of a more efficient process of generating the superheated steam for the

carbonization furnace.

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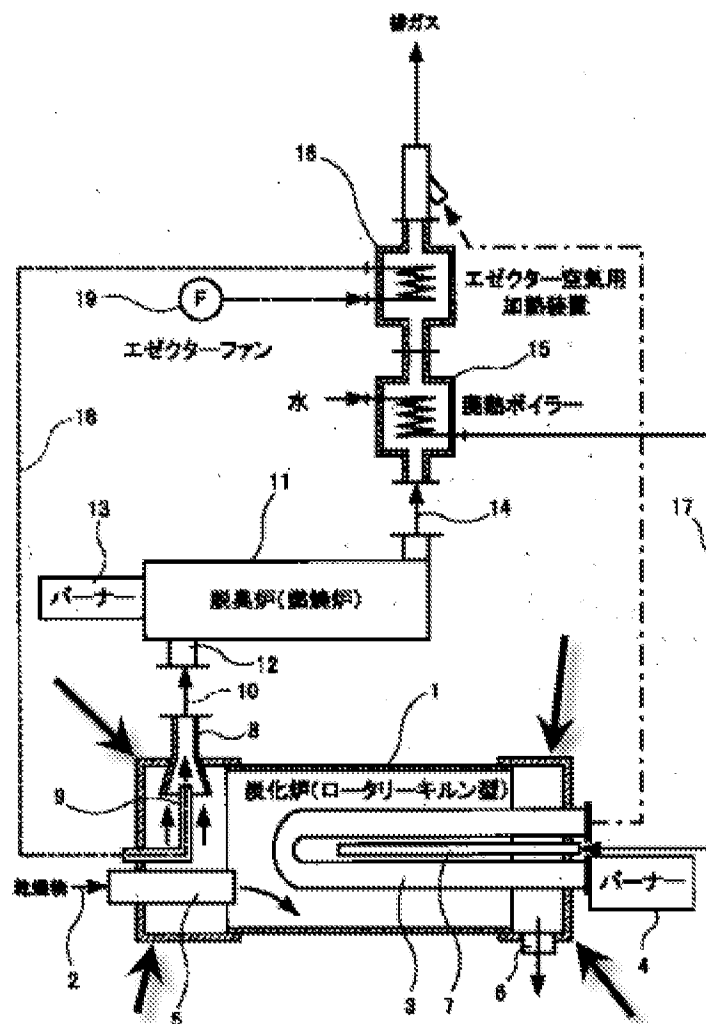
4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362, and further in view of JP 2002-322479 to Yuji et al. '816 in view of '362 fails to disclose a carbonization apparatus comprising a carbonization furnace for carbonizing waste material by heat transmission caused by bringing said waste material into direct contact with overheated steam introduced thereinto and discharging spent steam which is no longer required; and a drying carbonization furnace for drying said waste material by heat transmission caused by bringing said waste material into direct contact with the overheated steam introduced thereinto to dry said waste material and discharging spent steam. '479 teaches a carbonization apparatus comprising a carbonization furnace (1A) for carbonizing waste material and a drying carbonization furnace (D) in a downstream position from the carbonization furnace (1A). It would have been obvious to one skilled in the art at the time of invention to combine the carbonization furnace of '816 with the drying carbonization furnace of '479 because such a combination would have produced the added benefit of additional steam and heat recovery which could be later reused for superheated steam generation to be used in the carbonization furnace.

5. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362 and '479, and further in view of JP 2001-220120 to Kazuo. '816 in view of '362 and '479 fails to disclose a carbonization accelerating furnace for accelerating carbonization of waste material to be treated by heat transmission caused by bringing said waste material into direct contact with the overheated steam introduced thereinto and discharging spent steam which is no longer required. '120 teaches a carbonization

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apparatus with a carbonization accelerating furnace (2) for accelerating carbonization of waste material to be treated by heat transmission. It would have been obvious to one skilled in the art at the time of invention to combine the carbonization apparatus of '816 with the carbonization accelerating furnace of '120 because such a combination would have produced the added benefit of a faster and more complete carbonization of the waste material.

6. Claims 14-17, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362 as applied to claim 1 above, and further in view of JP 55003510 to Nagao. '816 further discloses a drying carbonization furnace provided with a cylinder shell (represented by arrows in Fig. reproduced below; hereafter "arrow") having a waste intake port (5) for introducing waste material (2) to be treated, a cylinder part (1) for stirring and moving the waste material, an exhaust port (6) for discharging the waste material, and a steam inlet port (7) for introducing overheated steam or spent steam tangentially from the outside of said cylinder part (1) to the inside of said cylinder part (1), wherein said cylinder shell (arrow) is provided with a plurality of steam inlet ports (7, each hole from which steam can be released is a port), wherein said cylinder shell (arrow) is provided with a steam discharge port (8) from which the spent steam after heating the waste material (2) in said cylinder shell (arrow) is discharged in a direction tangent to the inner surface of said cylinder part (1) from the inside of said cylinder part (1) to the outside of said cylinder part.



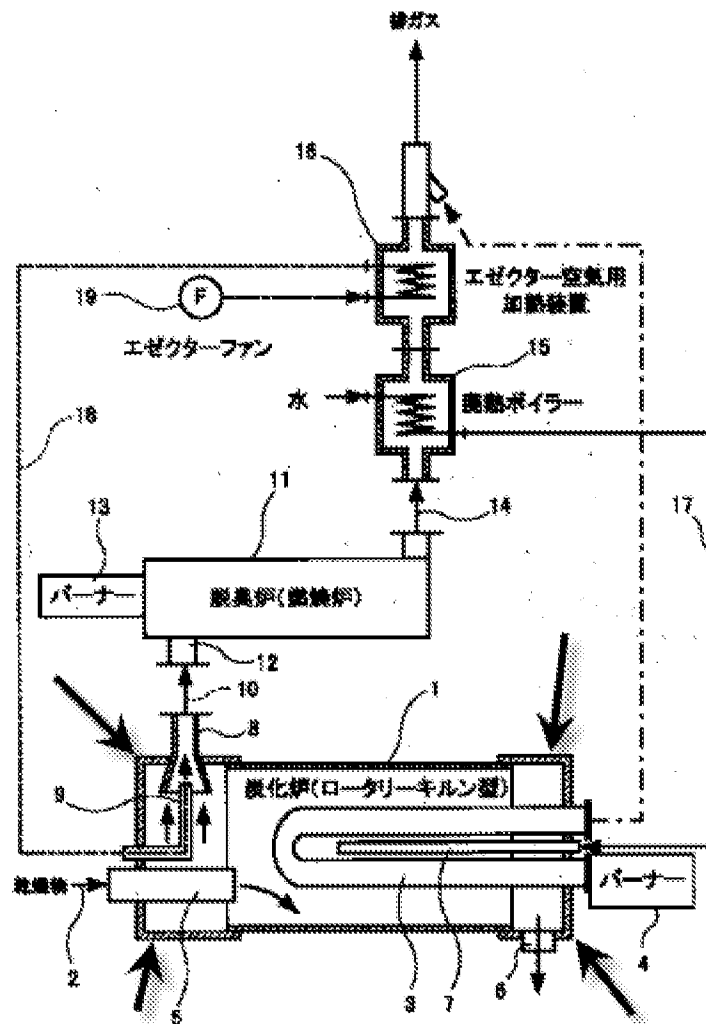
7. '816 fails to disclose rotatable stirring blades for stirring and moving the waste material in said cylinder shell, wherein a steam inlet port is formed to introduce the overheated steam or spent steam in the same direction tangent to the inner surface of said cylinder as the rotation direction of said stirring blades. '510 teaches a rotary carbonization furnace with stirring blades (9, 10) for stirring and moving waste material in a cylinder shell. The steam inlet port (7) of '816 is formed such that it introduces the overheated steam in the same direction tangent to the inner surface of said cylinder as



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the rotation direction of said stirring blades. It would have been obvious to one skilled in the art at the time of invention to modify the carbonization furnace of '816 with the stirring blades of '510 because such a combination would have produced the added benefit of a more thoroughly carbonized end product.

8. Claims 28-31, 34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362 and '479 as applied to claim 27 above, and further in view of JP 55003510 to Nagao. '816 further discloses a drying carbonization furnace provided with a cylinder shell (represented by arrows in Fig. reproduced below; hereafter "arrow") having a waste intake port (5) for introducing waste material (2) to be treated, a cylinder part (1) for stirring and moving the waste material, an exhaust port (6) for discharging the waste material, and a steam inlet port (7) for introducing overheated steam or spent steam tangentially from the outside of said cylinder part (1) to the inside of said cylinder part (1), wherein said cylinder shell (arrow) is provided with a plurality of steam inlet ports (7, each hole from which steam can be released is a port), wherein said cylinder shell (arrow) is provided with a steam discharge port (8) from which the spent steam after heating the waste material (2) in said cylinder shell (arrow) is discharged in a direction tangent to the inner surface of said cylinder part (1) from the inside of said cylinder part (1) to the outside of said cylinder part.

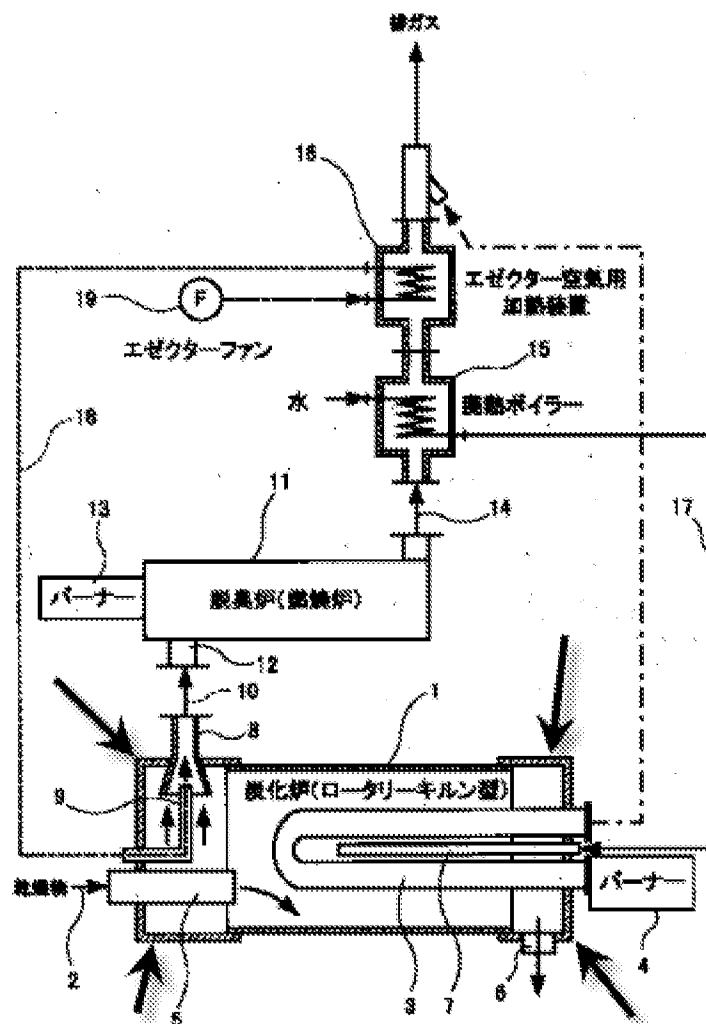


9. '816 fails to disclose rotatable stirring blades for stirring and moving the waste material in said cylinder shell, wherein a steam inlet port is formed to introduce the overheated steam or spent steam in the same direction tangent to the inner surface of said cylinder as the rotation direction of said stirring blades. '510 teaches a rotary carbonization furnace with stirring blades (9, 10) for stirring and moving waste material in a cylinder shell. The steam inlet port (7) of '816 is formed such that it introduces the overheated steam in the same direction tangent to the inner surface of said cylinder as

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the rotation direction of said stirring blades. It would have been obvious to one skilled in the art at the time of invention to modify the carbonization furnace of '816 with the stirring blades of '510 because such a combination would have produced the added benefit of a more thoroughly carbonized end product.

10. Claims 42-45, 48 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362, '479 and '120 as applied to claim 41 above, and further in view of JP 55003510 to Nagao. '816 further discloses a drying carbonization furnace provided with a cylinder shell (represented by arrows in Fig. reproduced below; hereafter "arrow") having a waste intake port (5) for introducing waste material (2) to be treated, a cylinder part (1) for stirring and moving the waste material, an exhaust port (6) for discharging the waste material, and a steam inlet port (7) for introducing overheated steam or spent steam tangentially from the outside of said cylinder part (1) to the inside of said cylinder part (1), wherein said cylinder shell (arrow) is provided with a plurality of steam inlet ports (7, each hole from which steam can be released is a port), wherein said cylinder shell (arrow) is provided with a steam discharge port (8) from which the spent steam after heating the waste material (2) in said cylinder shell (arrow) is discharged in a direction tangent to the inner surface of said cylinder part (1) from the inside of said cylinder part (1) to the outside of said cylinder part.



11. '816 fails to disclose rotatable stirring blades for stirring and moving the waste material in said cylinder shell, wherein a steam inlet port is formed to introduce the overheated steam or spent steam in the same direction tangent to the inner surface of said cylinder as the rotation direction of said stirring blades. '510 teaches a rotary carbonization furnace with stirring blades (9, 10) for stirring and moving waste material in a cylinder shell. The steam inlet port (7) of '816 is formed such that it introduces the overheated steam in the same direction tangent to the inner surface of said cylinder as

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the rotation direction of said stirring blades. It would have been obvious to one skilled in the art at the time of invention to modify the carbonization furnace of '816 with the stirring blades of '510 because such a combination would have produced the added benefit of a more thoroughly carbonized end product.

12. Claims 18-19, 21-22 and 24-26, are rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362 and '510 as applied to claims 14-17, 20 and 23 above, and further in view of US 5,582,137 to Brady et al. '816 fails to disclose a pressure regulation means or restriction means for adjusting the overheated steam or spent steam to be fed to said drying carbonization furnace or carbonization accelerating furnace to 5 to 20(m/s). '137 teaches a pressure regulation means (97) for adjusting the overheated steam released from a superheated steam producing boiler. It would have been obvious to one skilled in the art at the time of invention to combine the carbonization furnace of '816 with the pressure regulation means of '137 because such a combination would have produced the added benefit of allowing the amount of superheated steam entering the carbonization furnace to be regulated to prevent incomplete carbonization or wasted steam as a result of too little waste to be treated.

13. Claims 32-33, 35-36 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362, '479 and '510 as applied to claims 28-31, 34 and 37 above, and further in view of US 5,582,137 to Brady et al. '816 fails to disclose a pressure regulation means or restriction means for adjusting the overheated steam or spent steam to be fed to said drying carbonization furnace or carbonization accelerating furnace to 5 to 20(m/s). '137 teaches a pressure regulation means (97) for adjusting the

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overheated steam released from a superheated steam producing boiler. It would have been obvious to one skilled in the art at the time of invention to combine the carbonization furnace of '816 with the pressure regulation means of '137 because such a combination would have produced the added benefit of allowing the amount of superheated steam entering the carbonization furnace to be regulated to prevent incomplete carbonization or wasted steam as a result of too little waste to be treated.

14. Claims 46-47, 49-50 and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over '816 in view of '362, '479, '120 and 510 as applied to claims 42-45, 48 and 51 above, and further in view of US 5,582,137 to Brady et al. '816 fails to disclose a pressure regulation means or restriction means for adjusting the overheated steam or spent steam to be fed to said drying carbonization furnace or carbonization accelerating furnace to 5 to 20(m/s). '137 teaches a pressure regulation means (97) for adjusting the overheated steam released from a superheated steam producing boiler. It would have been obvious to one skilled in the art at the time of invention to combine the carbonization furnace of '816 with the pressure regulation means of '137 because such a combination would have produced the added benefit of allowing the amount of superheated steam entering the carbonization furnace to be regulated to prevent incomplete carbonization or wasted steam as a result of too little waste to be treated.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Laux whose telephone number is (571) 270-7619. The examiner can normally be reached on M-R 7:30-5, F 7:30-4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. L./  
Examiner, Art Unit 4193

/Derris H Banks/  
Supervisory Patent Examiner, Art  
Unit 3725